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ABSTRACT

The purpose of this study was to investigate the self-concept of the southwestern Indian adolescent. Hypotheses tested were (1) that a selected sample of self-reference statements can be used to obtain a composite self-concept of the Indian adolescent; (2) that the composite self-concept of the Indian adolescent varies according to tribal groups; and (3) that a self-concept rating system can be obtained from the derived data. A Q-instrument containing 50 self-reference statements was developed by the investigator, who administered the instrument to 411 Indian adolescents selected from Sherman Institute, Riverside, California; these students represented 5 southwestern tribal groups: 100 Navajos, 100 Pimas, 96 Papagos, 90 Apaches, and 25 Hopis. The investigator made an item analysis and accepted a group response if it comprised more than 67% or less than 34%. It was concluded that a composite self-concept of the Indian adolescent can be obtained using Q-technique methodology. While there were some self-concepts common to all 5 tribal groups, data indicated that there were also important and definite variations as to tribal perceptions of self and that a self-concept rating system can be obtained from the derived data and is desirable. (LS)

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A STUDY OF THE COMPOSITE SELF-CONCEPT OF THE SOUTHWESTERN INDIAN ADOLESCENT

An Inservice Action Research Project of Sherman Institute

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INTRODUCTION

The professional guidance worker who works with Indian students has two definite responsibilities. He has the responsibility of assisting the individual Indian student to develop a mature, adequate, and stable self-concept in adjusting to his particular life situation. He also has the responsibility of making positive and significant contributions to the total school curriculum.

During the past twenty years, researchers increasingly have become interested in how the individual views himself. This interest in the self-concept has resulted in enough positive trends to be tantalizing to the serious guidance worker. Today, there continues to be an accumulation of research studies concerning the self and its variants. The application of these research findings can be a significant factor in the counseling process.

Statement of the Problem

The purpose of this study was to investigate the self-concept of the southwestern Indian adolescent. The hypotheses to be tested were: (1) that a selected sample of self-reference statements can be used to obtain the composite self-concept of the Indian adolescent; (2) that the composite self-concept varies according to tribal groups; and (3) that a self-concept rating system can be obtained from the derived data. The emphasis in this study was on the population, or group, of self-reference statements rather than on the population, or group, of subjects.

In order to test the above hypotheses, a 50-item testing instrument was developed by the investigator.

Limitations of the Problem

The investigation was limited to Sherman Institute, Riverside, California, an off-reservation boarding school with an enrollment of 1,040 from 15 different

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southwestern Indian tribes from Arizona and New Mexico. The investigator makes no extravagant implications as to the self-concept of the general Indian population. The cultural and bilingual factors of the tribal participants are considered limitations. The investigator recognized that existing personality theories have been developed from the dominant Anglo culture; therefore, the behavorial responses from Indian students reared in a different environmental culture may be variant from those of the dominant American culture. The Q-technique, basic to Q-theory as used in this study, involved a forced choice which may have influenced the participants' responses and must be considered a limitation. Another limiting factor was that the self-reports were given during the special dynamic condition of adolescence during which the self-concept may be transitory in nature.

Definition of Terms

These include: (1) Adolescent, Indian: in terms of the dominant Anglo society, any male or female Indian between the ages of 12 and 21; (2) Anglo: refers to the dominant white American culture; (3) Apache: a specific Indian tribe residing in west central Arizona; (4) Hopi: a specific Indian tribe residing in northern Arizona; (5) Navajo: a specific Indian tribe residing in northern Arizona and New Mexico; (6) Papago: a specific Indian tribe residing in southern Arizona; (7) Pima: a specific Indian tribe residing in central Arizona; (8) Population: a group of individuals or items; (9) Q-statements: the actual self-reference reports as used in Q-technique; (10) Q-sort: a compiled group of Q-statements; (11) Q-technique: a specific methodology and theory of factor analysis; (12) Self: the "I", the individual as known to the individual, the aspects of himself which are peculiarly his; (13) Self-concept: the way the individual looks upon himself, his perception of self, the kind of person he thinks he is.

Importance of Making the Study

The importance of this study lies in the need to determine how the modern Indian adolescent views himself in his life situation, and to apply these findings to the total educational process and curriculum. One of the central issues of modern Indian society is the problem of establishing an integrated identity. Explorations of the self-concept give promise of becoming important clues for evaluating the modern Indian who is considered by this investigator as being in a transitional culture stage. In this transitional stage, the Indian adolescent is a "marginal" person, living partly within the dominant Anglo culture and partly within the Indian culture. Perhaps, to some degree, he is able to respond to both cultures and has oriented himself toward both cultures. Perhaps, also, his reactions are maladjustive in this fluid state of transition from one culture to another; however, very little valid information is known concerning the adolescent Indian's thoughts and subjective feelings. The value of this study, then, is to find out what is his view of himself.

Methods of Investigation Used

Research had shown the Q-technique, based on a Q-methodology of factor analysis, to be a desirable method of investigating the self-concept. A 50-item, self-reference Q-instrument was developed and administered to 411 Indian adolescents from five southwestern Indian tribes. The Q-sorts were scored and an item analysis was made. The analysis was made first of the total responses of the 411 students to the 50

self-reference statements. Then the responses of the five tribal subgroups were analyzed, compared, and tested for significance. The Q-scores of the 411 Indian adolescents were used to establish a norm group. By using stanine procedures, a self-concept rating system was established by the investigator.

REVIEW OF GENERAL CONCEPTS AND LITERATURE

This is a review of general concepts pertaining to: (1) the self-concept, (2) the Q-technique and theory, and (3) the general field of Indian study.

The Self-Concept

One of the purposes of adolescence is the achievement of a firm sense of self-identity, the sense of self having only recently become a focus. Every person has to have a sense of identity. Every person wants to find answers to such questions as: Who am I? What am I? What is my role? What is my place? What is my job? With whom can I identify? Who belongs to me? To whom do I belong? What kind of person am I? What kind of person do I want to be? Who sets my limits?

During this period of development, the adolescent's self-concept will influence his decision to break former close emotional ties, his decision of a life's work, his decision of selecting and getting an education, and his decision to choose a life mate.

Carl R. Rogers' theories (25) (26) regarding the self-concept have received increased attention by researchers in the past 15 years. His theories provide for a concept of the perceived self which develops out of the person's interaction with his environment. Rogers' complete statement of theory is contained in 19 hypotheses, the testing of which resulted in a large quantity of research. His theories are based upon an assumption of the validity of the self-report itself. He also theorizes that a negatively described self-concept indicates stress, tension, and maladjustment within the individual, while a positively described self-concept may indicate either of two possible meanings: (1) a reasonable degree of adjustment or (2) that the individual has a highly developed defensive mechanism which masks his true self because of a sense of being self-threatened.

Criticisms of self-concept studies center on the matter of construct validity. The self-concept cannot be directly observed; therefore, it must be inferred. The investigator must measure a stated class of variables, therefore making the investigator dependent upon the self-report responses. This immediately places a limitation upon the investigation, and the investigator is at a disadvantage as he has no way of independently checking the self-reports. This verifies the observation that the individual doing research in the self-concept encounters problems of method that are much more complicated than those encountered in many other fields. Researchers are beginning to develop lower order hypotheses instead of trying to do too much at one time. Thus in this study, the investigator concerned himself with a lower order hypothesis of a single factor, the "actual" self-concept rather than multiple factors of "actual-ideal-others" self-concepts.

The Q-Technique and Theory

In Q-methodology (35) the single concrete person is studied in his own right in factor terms. For instance, one factor term can be the "actual self"; another factor

term can be the "ideal self." Q-theory states that factor analysis is applicable to man's wishes, hopes, attitudes, delusions, beliefs, and all else pertaining to his self-concept. The study of self-psychology can begin from the standpoint of what a person believes about himself—what he believes he is like. Q-theory says that each of us can reflect and make reference to himself; that a person's self-conceptions are facts to be discovered about him, and that Q-statements can be gathered through observing an individual or from careful retrospection. Q-technique has application in every branch of psychology where behavior is at issue. Q-theory states that behavior of all kinds can be experimentally studied in concrete settings without constructing a single scale or measuring instrument of any kind based upon individual differences; and that we experiment with a particular person, or an interacting group of persons, who operates with samples of Q-statements.

In the typical application of the Q-technique to self-study, a large number of self-reference statements are sorted into nine piles which are arranged by the subject on a continuum according to the degree to which they are characteristic of himself. The subject is forced by the instructions to place specified numbers of self-reference statements in each pile so as to yield a quasi-normal distribution of items. Each Q-statement can be assigned a value from one to nine, according to the pile in which the subject has chosen to put it. This one Q-sort is based on one factor: the actual self. The subject can then be asked to sort the items for other categories such as his ideal self, his self as others perceive him, how his mother perceives him, etc. In Q-methodology, the emphasis is on the population, or group, of statements rather than on the population, or group, of persons. The responses of the subject will depend upon the set of instructions such as "your actual self," "your ideal self," or "yourself as others see you."

The General Field of Indian Study

Researchers in the past have used various methods of studying the American Indian, resulting in valuable implications and applications. Pertinent literature and representative types of studies concerning Indians will be cited in the following pages.

Stewart and Newman (36) noted that in 1772 the attitude regarding Indians was, "He who has seen one tribe of Indians has seen all," and that in 1949 the attitude remained. However they concluded that this attitude is based upon wrong assumptions, that in reality the principle of Indian racial unity rests solely upon the outer appearance of the Indians. Within this racial pattern, the Indians are quite variable; and the scientists are now considering the Indians' variability and its significance.

Fred Eggan (11) stated that before 1900 the studies of North American Indians centered around studies as related to evolutionism. The period of 1900-1915 was a "formative" period devoted to collecting, ordering, and interpreting the cultural data of the "vanishing" American Indian. The period of 1915-1930 is called the "classic" period by Eggan in which distributional studies were utilized to provide an outline of chronology. Historical and regional interests were dominant. The period of 1930 to the present is called the dynamic structuralism, and Eggan says that the outlook for future study is a marriage of the British functional and structural point of view to the American traditional interest in cultural history and the cultural process. The newer method of studying the societies and cultures of North American Indian

tribes, according to this author, is scientific rather than historical and is concerned with the formulation of general propositions rather than descriptive integrations. The newer method is concerned with social structure and social function and involves assumptions as to the nature of Indian society and culture.

Spindler and Spindler (32) describe three types of Indians in the modern age. They describe the native-type Indian as one who has had only marginal contact with the Anglos; who thinks and acts as an Indian; whose emotions are highly balanced; who cannot compete in the modern world; and who is nostalgic for the past—rebounding from the Anglo to the Indian society. They describe the transitional-type Indian as one who is passively withdrawn; who has experienced the loss of emotional control; who sometimes exhibits overt and destructive hostility; and one who has abrupt shifts in decision-making. They describe the acculturated-type as one who is achievement-oriented; who does not exhibit anxiety; who is quick to respond; and who keeps moving toward goals. Spindler and Spindler describe in detail nine other widely exhibited psychological features of the American Indian. They also note the variations from culture to culture.

Robert N. Bellah (1) has a modern example of the study of the kinship system. His method was to analyze published material on the seven related Apache Indian groups. He concludes that the structural-functional type of analysis has an important and growing contribution to research.

Richard B. Brandt's (4) study is a theoretical analysis of the Hopi Indians. He studied in detail the Hopi's world, mode of life and goals; the structure of the Hopi conscience, attitudes, and ethical concepts; the Hopi ideal personality—an analysis; and the Hopi pattern of cultural process. Brandt's method was to assume that the simplest way to find out a person's opinion is simply to ask him.

Alfred W. Bowers (2) study of the Mandan Indians is an example of the study of a social and ceremonial organization. The method used was questionnaire and conversational elaboration.

George Devereux (9) studied the Indian individual in his book on the psychotherapy of a Plains Indian patient. His method was to describe in detail the process of leading the Indian patient back to his childhood to understand the beginnings of his present maladjustments.

Ruth Sawtell Wallis (41) has a study of the overt fears of Dakota Indian children. Her method was to take two samples of Indian children and compare their fears with those of urban and rural white children.

William Caudill (6) has an interesting study on the psychological characteristics of acculturated Wisconsin Ojibwa children. His problem was to determine the differences between a highly acculturated group and a group whose acculturation was on a much lower level. He wanted to measure variability in personality structure among Indians of the same aboriginal background but who represented different levels of acculturation. The main conclusion that he reached was that acculturation has a negative effect on the personality of Ojibwa children.

Laura Thompson (38) (39) studied the Hopi Indians in behalf of the Indian Administration Research Project. Her methods were to give a number of tests—the Goodenough Draw-A-Man Test, the Grace Arthur Performance Scale, the Roschach,

and the Thematic Apperception Test—to Hopis from two different sections of the reservation, to make comparisons, and to put the findings into relationships to the total known culture patterns. These findings and their implications were to be used to help solve the modern problems of education, government, and acculturation of the Hopi Indians.

Gordon F. Streib (34) made a study using the survey method among the Navajo Indians, a survey being defined as a structural type of social investigation in which the subjects are asked questions. The method was to go to Navajo dwellings in two communities and by direct approach to attempt to gain rapid rapport through an interpreter. Factual and attitude questions were asked. Streib's conclusion was that the survey method as a tool is a desirable approach to semi-literate people. The direct approach did not seem to hamper the investigation.

One of the most important studies of Indian children in recent years is that of Robert Havighurst and Bernice L. Neugarten (16) who present a sociopsychological study of American Indian and white children. The purpose was to study the moral, emotional, and intellectual development of six American Indian tribes to derive implications for the education of Indian children. Data were collected for one year; the analysis of results continued for two years. These researchers felt that they were successful in getting reliable and substantial data on the basic emotional and physical relationships, the common values and aversions, and the basic moral attitudes of children. The findings compared favorably with orthodox ethnological methods already used by other researchers. They note the difficulty in adopting testing instruments to culture for which they were not originally intended. One hundred students were recommended as a good representative sample for a study of Indians.

A number of studies have been reviewed briefly because of their implications to the study of the self-concepts of Indian children. In summary, the newer methods of study are functional, structural, and comparative types of studies in which the moral, emotional, physical, intellectual, or personality development of an individual or group is studied.

MATERIALS, TECHNIQUES, AND METHODS OF ANALYSIS

The General Methodology

The following approaches were used to arrive at the results of this study: (1) A review of the literature had revealed Q-methodology as a desirable approach well-adapted to social, psychological, and educational problems; therefore, the investigator decided to use this methodology in this study. A 50-item Q-instrument was subsequently developed and administered to a selected sample of 411 Indian students under a single-factor set of instructions to sort the cards according to the "actual self." The total sample contained five tribal subgroups. The investigator then made an item analysis. Using the data obtained from the item analysis, the investigator decided to obtain a composite picture of the Indian adolescent's self-concept by accepting any item which obtained 67 percent or more verification as a positive self-concept, and any item which obtained less than 34 percent verification as a

negative concept. These percentages represent plus and minus standard deviations in a normal distribution. This analysis was made for the total sample as well as for the five tribal subgroups. (2) The raw scores of the total sample, as well as the five tribal subgroups, were given statistical treatment to determine the means, standard deviations, standard errors, and critical t-ratios (tests of significance).

The Subjects Used in This Study

The participants for this study were selected from Sherman Institute, Riverside, California, an off-reservation Bureau of Indian Affairs boarding school with a total Indian enrollment of 1,040 representing Indian tribes from Arizona and New Mexico. The selected sample of 411 students included 100 Navajos, 100 Pimas, 96 Papagos, 90 Apaches, and 25 Hopis.

The Selection and Administration of the Q-Instrument

A review of the literature concerning the self-concept revealed the Q-sort, or slight modifications thereof, as one of the most commonly used techniques for assessing self-regard. According to Q-theory any group of statements can be used. The investigator, in a previous study (24), had developed a Q-instrument of 25 positive and 25 negative self-reference statements. These statements, as found in Appendix A, were further modified by the investigator and used in this study. The odd-numbered statements are considered by the investigator to be positive in nature; the even-numbered statements are considered negative in nature. The 50 statements were placed on 1¼" x 3" cards. The participants were asked to place the cards, on a forced choice basis, on a continuum as shown in Appendix B: Exhibit 1. The purpose of the forced-choice instructions to place a specific number of cards under each category was to yield a quasi-normal distribution of items, in accordance with Q-methodology.

In the previous study (24), the investigator found marked evidence of reliability with a test-retest correlation coefficient of .68 in testing 70 Navajo students. The investigator also found no significant differences in the performances of various groups at the 1 percent confidence level. As further evidence of validity, the correlation of the self-concept Q-scores with the subjects' ages (.43), the California Test of Personality (.41), and an Overt Wish Questionnaire (.52) gave marked evidence of the validity of the instrument.

The nine categories of the continuum were assigned a value of 1 to 9 ranging from the most negative to the most positive ends of the continuum. The positive statements were scored if they were placed on the "Like Me" end of the continuum, including the "Sometimes" category. The negative statements were scored if they were placed on the "Unlike Me" end of the continuum. A negative statement was not scored if in the "Sometimes" category. The lowest possible score was 25; the highest possible score was 225. Appendix A: Exhibit II shows the number of cards in each category, the value of each card in the category, and the total value of each category in a normal distribution.

To facilitate the administration of the Q-sort to bilingual subjects, each participant was given nine sheets of paper corresponding to the nine categories and showing the number of cards to be placed on each sheet of paper. The subjects were given a sheet of directions which they read silently while the investigator read the directions

aloud to them. Appendix B: Exhibit III gives the directions for the administration of the Q-sort as used in this study.

The investigator administered the Q-instrument to single subjects as well as to groups; however, 12 students comprised the largest group tested at any one time. When taking the Q-sort, the participants were so placed at tables that other students could not observe their responses. The investigator took the time before each testing period to attempt to gain proper rapport, to relieve levels of anxiety, and to counteract the tendency to give socially desirable answers by stressing, "There is no right or wrong way to answer. Just answer the way you feel about yourself. Be sure it is the way you really feel."

The Method of Analysis of Data

Several methods were used to analyze the data: (1) an item analysis was made of the responses of the 411 Indian subjects for the purpose of obtaining those self-reference statements which received more than 67 percent or less than 34 percent verification. Those items which received verification became the basis for the composite picture of the Indian adolescent's self-concept. (2) The same item analysis was made for the five tribal subgroups to determine if there were tribal differences in the obtained data. (3) The method of comparison was used to compare the raw Q-scores of the five tribal sub-groups, with the statistical treatment consisting of a computation of the means, the difference in means, the standard deviations, the standard errors, the standard errors of the difference, and the critical t-ratio (test of significance). (4) The raw scores of the 411 subjects were converted to stanine scores in order to give a quasi-normal distribution of the Q-scores, the purpose of which was to develop a self-concept rating system.

RESULTS OF THE STUDY

The purpose of this study was to investigate the self-concept of the southwestern Indian adolescent. The hypotheses to be tested were: (1) that a selected sample of self-reference statements can be used to obtain a composite self-concept of the Indian adolescent; (2) that the composite self-concept of the Indian adolescent varies according to tribal groups; and (3) that a self-concept rating system can be obtained from the derived data.

Hypothesis 1: A selected sample of self-reference statements can be used to obtain a composite self-concept of the Indian adolescent. Based on Q-theory and Q-technique, a Q-sort of 50 selected self-reference statements (Appendix A) was administered to a selected sample of 411 Indian adolescents. The subjects were asked to react to a single-factor (actual self-concept) set of instructions (Appendix B: Exhibit III) rather than to a multi-factor (actual-ideal-others) set of instructions. Using the technique and scoring system described in Appendix B: Exhibits I and II, the statistical treatment revealed a mean of 157.82, a standard deviation of 32.50, and a standard error of 1.61 for the total sample. The range was 25-225. The investigator then decided to make an item analysis of the 411 Q-sorts of the total sample. He also decided to accept, as a composite self-concept of the group, any group response which yielded more than 67 percent favorable responses or less than 34 percent

unfavorable responses to any of the 50 self-reference statements. The percentages correspond to plus one or minus one standard deviation in a normal distribution.

The item analysis revealed that the total sample confirmed seven positive and three negative self-reference statements as being the composite self-concept of the southwestern Indian adolescent. The validated self-reference items are given in Appendix C.

The confirmed self-reference statements are:

1. Positive—I do not run away from my problems.
   I like people.
   I am glad I am an Indian.
   I want to improve myself.
   It is not like me to wish I were not born.
   I feel that my family likes me.
   I think my friends do not get me into trouble.

2. Negative—I am not smart.
   I am not important.
   I feel the other person doesn't like me when I am on a date.

The investigator concluded that, using the Q-technique methodology, a composite self-concept of the Indian adolescent can be obtained; however, the limitation should be stressed that the composite self-concept is based only upon the selected sample of self-reference statements. Other samples of self-reference statements can be submitted to the Indian adolescent for validation or rejection.

Hypothesis 2: The composite self-concept of the Indian adolescent varies according to tribal groups. The investigator used the same techniques as were used to investigate Hypothesis 1 to obtain the composite tribal self-concepts of the five Indian tribal groups used in this study, with the following results:

1. The composite Navajo adolescent (N=100) has these self-concepts:

   A. Positive —I am happy.
   I do not run away from my problems.
   I am not bad.
   I like people.
   I am glad I am an Indian.
   I like my body.
   I want to improve myself.
   It is not like me to wish I were not born.
   I feel all right.
   I like to go to church.
   I feel my family likes me.

I think my friends do not get me into trouble.
I am a good worker.
It is not like me to feel I can't eat when people watch.

B. Negative—I am not smart.
I am not important.
I feel the other person doesn't like me when I am on a date.
I do bad things.
I have trouble with people.

2. The composite Apache adolescent (N=90) has these self-concepts:

A. Positive —I am not bad.
I like people.
I am glad to be an Indian.
I like to go to church.
I feel my family likes me.

B. Negative—I am not smart.
I am not important.
I feel people don't like me.
I feel the other person doesn't like me when I am on a date.
I feel boys don't like me.

3. The composite Hopi adolescent (N=25) has these self-concepts:

A. Positive —I am happy.
I like people.
I am glad to be an Indian.
I want to improve myself.
It is not like me to wish I were not born.
I am not angry.
I feel my family likes me.
It is not like me to feel I can't eat when people watch me.

B. Negative—I am not important.
I think my teachers do not like me.

4. The composite Papago adolescent (N=96) has these self-concepts:

A. Positive —I do not run away from my problems.
I like people.
I am glad I am an Indian.

I want to improve myself.
It is not like me to wish I were not born.
I like to go to church.
I feel my family likes me.
I think my friends do not get me into trouble.

B. Negative—I am not smart.
I am not important.
I feel the other person doesn't like me when I am on a date.
I think boys don't like me.
I think girls don't like me.

5. The composite Pima adolescent (N=100) has these self-concepts:

A. Positive —I don't run away from my problems.
I like people.
I don't want to be somebody else.
I am glad to be an Indian.
I want to improve myself.
I feel my family likes me.
I think my friends do not get me into trouble.

B. Negative—I am not smart.
I am not important.
I feel the other person doesn't like me when I am on a date.
I think boys don't like me.

In addition the item analysis revealed these tribal variations in their composite self-concept:

1. Positive —I am happy. (Navajo and Hopi only.)
I don't run away from my problems. (Navajo, Papago, and Pima only.)
I am not bad. (Navajo and Apache only.)
I don't want to be somebody else. (Pima only.)
I like my body. (Navajo only.)
I want to improve myself. (All groups but Apache.)
It is not true I wish I were not born. (All groups but Apache and Pima.)
I feel all right. (Navajo only.)
I am not angry. (Hopi only.)
I think my friends do not get me into trouble. (Not true of Hopi and Apache.)
It is not like me to feel I can't eat when people watch me. (Navajo and Hopi only.)
I am a good worker. (Navajo only.)

2. Negative—I am not smart. (All groups but Hopi.)
I feel people don't like me. (Apache only.)
I worry. (Papago only.)
I think my teachers don't like me. (Hopi only.)
I feel the other person doesn't like me when I am on a date. (All groups except Hopi.)
I think boys don't like me. (Papago, Pima, and Apache only.)
I think girls don't like me. (Papago only.)
I do bad things. (Navajo only.)

In addition to the item analysis, statistical treatment was given to the data to obtain the means, standard deviations, and standard errors of the various samples with the following results:

	Mean	SD .	SD^2	Standard Error
Boys	161.81	31.71	1005.52	2.18
Girls	153.54	32.77	1073.87	2.33
TOTAL	157.82	32.50	1056.25	1.61
Apaches	151.11	32.60	1062.76	3.46
Hopis	154.92	27.74	769.51	5.66
Navajos	169.80	30.18	910.83	3.03
Papagos	156.88	31.36	983.45	3.22
Pimas	153.70	33.57	1126.94	3.37

Statistical treatment also was given to the data to obtain the critical t-ratio (test of significance) between the various samples with the following results:

Comparison	Difference in Means	Standard Error Between Means	Critical t-ratio	Confidence Level
Boys versus Girls	8.27	45.60	.18	1%
Navajos versus Papagos	12.92	43.52	.30	1%
Navajos versus Hopis	14.88	40.99	.36	1%
Navajos versus Pimas	16.10	45.14	.38	1%
Navajos versus Apaches	18.69	44.43	.42	1%
Apaches versus Hopis	3.81	42.80	.09	1%
Apaches versus Pimas	2.59	46.79	.06	1%
Apaches versus Papagos	5.77	45.24	.13	1%
Papagos versus Hopis	1.96	41.87	.05	1%
Papagos versus Pimas	3.18	45.94	.07	1%
Pimas versus Hopis	1.22	43.55	.03	1%

The investigator concluded that, while there are some self-concepts common to all five tribal subgroups, the data indicate there are also important and definite variations as to tribal perceptions of self. As to performance level with the Q-sort, the data indicate no significant sex or tribal differences at the 1 percent confidence level.

Hypothesis 3: A self-concept rating system can be obtained from the derived data. The Q-scores of the total sample (N=411) were converted to standard (stanine) (10) scores to give a quasi-normal distribution of the scores for the purpose of establishing a self-concept rating system with the following results:

Raw Score Interval	Self-Concept Rating
211-225	High
183-210	Above Average
136-182	Average
92-135	Below Average
50-91	Low

In the practical application of the self-concept rating system, the rating of an individual is found by matching the score interval in which his Q-score is found with the self-concept rating. For instance, an individual who has: (1) a Q-score of 222 is given a "High" self-concept rating; (2) a Q-score of 205 is given an "Above Average" self-concept rating; (3) a Q-score of 155 is given an "Average" self-concept rating; (4) a Q-score of 125 is given a "Below Average" self-concept rating; and (5) a Q-score of 85 is given a "Low" self-concept rating.

The investigator concluded that a self-concept rating system can be obtained from the derived data and is desirable.

SUMMARY, CONCLUSIONS, IMPLICATIONS TO THE CURRICULUM, AND RECOMMENDATIONS

Summary of the Investigation

The purpose of this study was to investigate the self-concept of the southwestern Indian adolescent. The hypotheses to be tested were: (1) that a selected sample of self-reference statements can be used to obtain a composite self-concept of the Indian adolescent; (2) that the composite self-concept of the Indian adolescent varies according to tribal groups; and (3) that a self-concept rating system can be obtained from the derived data.

Research had shown Q-methodology to be a desirable approach; therefore, the investigator decided to use this basic technique, using the single-factor (actual self-concept) technique of analysis rather than the multifactor (actual-ideal self-concept) technique. A Q-instrument containing 50 self-reference statements was developed by the investigator who administered the testing instrument to 411 Indian adolescents from 5 different southwestern tribal groups. The investigator made an item analysis and accepted a group response if it were more than 67 percent or less than 34 percent. These accepted items were used to characterize the composite Indian adolescent of this study.

The composite southwestern Indian adolescent of this study has the following positive perceptions: I do not run away from my problems; I like people; I am glad I am an Indian; I want to improve myself; It is not like me to wish I were not born; I feel that my family likes me; and I think my friends do not get me into trouble.

He perceives himself negatively as follows: I am not smart; I am not important; and I feel the other person doesn't like me when I am on a date.

An item analysis was also made of the five tribal subgroups. While there were some self-concepts common to all five tribal subgroups, the data indicate some important and definite tribal variations as to self-concepts. These likenesses, as well as differences, may be of significant concern to the school guidance workers as well as to the school curriculum.

Statistical treatment was given to the data to obtain the means of the various samples, the standard deviations, the standard errors, and the t-ratios (tests of significance). The data indicate no significant sex or tribal differences in test performance on the self-concept Q-sort at the 1 percent confidence level.

The investigator converted the Q-scores of the total sample (N-411) to standard (stanine) scores to give a quasi-normal distribution of the scores for the purpose of establishing a self-concept rating system as follows: (1) High Self-Concept, 211-225 score interval; (2) Above Average Self-Concept, 183-210 score interval; (3) Average Self-Concept, 136-182 score interval; (4) Below Average Self-Concept, 92-135 score interval; and (5) Low Self-Concept, 50-91 score interval. The range of the test was 25-225.

Summary of Conclusions

The analysis of data led the investigator to make the following conclusions:

(1) A selected sample of self-reference statements can be used to obtain the composite self-concept of the Indian adolescent. The Q-methodology, using the single-factor (actual self-concept) technique of analysis, was found to be a desirable approach. Both the positive and the negative self-concepts of the composite Indian adolescent were identifiable.

(2) While there are some self-concepts common to all five tribal subgroups, the data indicate there are also important definite variations as to tribal perceptions of themselves. However, at the test performance level, there were no significant sex or tribal differences at the 1 percent confidence level. The identified likenesses and differences appear to be significant for the school curriculum and to the guidance worker.

(3) The item analysis of the group response revealed that the composite Indian adolescent of this study perceives himself positively as follows: I do not run away from my problems; I like people; I am glad I am an Indian; I want to improve myself; It is not like me to wish I were not born; I feel that my family likes me; and I think my friends do not get me into trouble. He perceives himself negatively as follows: I am not smart; I am not important; and I feel the other person doesn't like me when I am on a date.

(4) The item analysis also revealed definite and important tribal variations of self-concept.

(5) The investigator concluded that a Self-Concept Rating System can be devised from the derived data, and that this is desirable.

Implications for the Curriculum

In presenting the possible implications for the curriculum, the investigator makes it clear that this section is purely subjective as there may be many interpretations

of the results of this study.

Educators and counselors have many goals for Indian adolescents. Two of them are: (1) to enhance the self-esteem of Indian individuals thereby enabling them to better adjust to their particular life situation and (2) to complete and differentiate their self-image through the educational process and curriculum.

The investigator feels it is pertinent to restate that everything that is said or done to Indian individuals, day by day, hour by hour, is either ego-enhancing or ego-assaulting. The investigator feels that this is the area in which the findings of this study are most applicable.

The three statements, "I do not run away from my problems," "I want to improve myself," and "I think my friends do not get me into trouble," appear to the investigator to be positive-oriented foundations for self-responsibility. Could it be possible that in the curriculum (both academic and guidance) even greater opportunities could be given to the reinforcement of self-responsibility? Could it be possible that in saying, "I want to improve myself," the composite Indian adolescent is giving evidence of becoming more achievement-oriented?

The three statements, "I like people," "I feel my family likes me," and "I am glad I am an Indian," appear to the investigator to be strong positive indicators of the tremendous growth potential for Indian adolescents in the areas of social and personal adjustment. Here are three bases upon which ego-enhancing inferences can be built into the Indian school curriculum. Here are unlimited horizons for the imaginative and creative educator or counselor. Could it be that the ego-support from family or extended family is stronger than has been thought? The composite Indian adolescent states he feels strong family support. Is this true? Are family relationships really weaker? Or is this an ego defense screen on the part of neglected and rejected welfare adolescents? Is it possible that the eight percent who is not glad to be an Indian is an indicator of increasing maladjustments in this area? These are unanswered questions that remain.

The statement, "It is not like me to wish I were not born," is a positive self-concept, and may be comforting to the counselor who has heard maladjusted Indian adolescents express definite death wishes. At the same time, the investigator notes that 20 percent of the Indian adolescents did state they wished they were not born. This is 2 out of 10 adolescents. These feelings have utmost importance as they give vital clues as to the mental state of the Indian adolescent.

The two statements, "I am not smart" and "I am not important," are confirmed negative self-concepts of the composite Indian adolescent of this study and represent extreme ego-assaulting self-concepts, which lead to considerable insecurity, inferiority, defeatism, and depression. The investigator feels that these defective aspects of the Indian personality are of such magnitude that they need much attention by curriculum makers and guidance workers. The investigator feels that these two findings are the most important critical findings of this study.

The statement, "I feel the other person doesn't like me when I am on a date," suggests feelings of insecurity in interpersonal relationships with the opposite sex. Even though these feelings may be normal for all developing adolescents, there is still need for continued and expert attention to the area of sex education and social

relationships with the opposite sex.

Summary of Recommendations

Q-methodology and the Q-instrument give promise of important tools in the search for a reliable and valid measurement of the self-concept of Indian individuals. Therefore the investigator recommends: (1) that the Q-technique be used in further research with other Indian participants and with other series of self-reference statements; (2) that the lower-order hypothesis of a single factor, "My actual self-concept," continue to be explored in depth; (3) that the hypotheses be gradually expanded to include multifactor analysis such as "My ideal self-concept," etc.; and (4) that continued emphasis be made on the reliability and the validity of the measuring instrument.

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APPENDIX A

THE FIFTY SELF-REFERENCE STATEMENTS USED IN THIS STUDY

1. I am happy.
2. I am sad.
3. I am smart.
4. I am afraid.
5. I like myself.
6. I hate myself.
7. I am important.
8. I run away from my problems.
9. I am good.
10. I am bad.
11. I like people.
12. I am lazy.
13. I feel people like me.
14. I want to be somebody else.
15. I am glad I am an Indian.
16. I don't like my body.
17. I like to go to a party.

18. I don't like to make a speech.
19. I want to improve myself.
20. I wish I were not born.
21. I do things without being told.
22. I don't get a chance to do what I want to do.
23. I feel all right.
24. I worry.
25. I can depend on myself.
26. I obey rules because other people make me.
27. I believe in the rules made by other people.
28. I can't keep myself from doing wrong things.
29. I like the way I am.
30. I am angry.
31. I like to go to church.
32. I don't think my teachers like me.
33. I feel the other person likes me when I am on a date.
34. I can't make up my mind what to do.
35. I know what my problems are.
36. I don't understand myself.
37. I feel my family likes me.
38. I think my friends get me into trouble.
39. I think boys like me.
40. I don't like school.
41. I think girls like me.
42. I do bad things.
43. I am a good worker.
44. I worry about the bad things I do.
45. I like my body.
46. I have trouble with people.
47. I think everything is going to be all right.
48. I don't like to eat when people watch me.
49. I look on the bright side of life.
50. I am sorry for the things I do.

Note: The odd-numbered statements are considered positive in nature; the even-numbered statements are considered negative in nature.

APPENDIX B: EXHIBIT I

THE NINE CATEGORIES ON THE Q-SORT CONTINUUM AND THE NUMBER OF CARDS TO BE PLACED IN EACH CATEGORY

Never Like Me	Not Like Me Most	Not Like Me Much	Not Like Me	Some-times Like Me	Like Me	Like Me Much	Like Me Most	Like Me All The Time
2	3	6	9	10	9	6	3	2

APPENDIX B: EXHIBIT II

A NORMAL DISTRIBUTION SHOWING THE NUMBER OF CARDS IN A CATEGORY, THE CARD VALUE, AND THE TOTAL VALUE OF EACH CATEGORY

	Not Like Me				Sometimes	Like Me			
	Neg.	Neg.	Neg.	Neg.	(5 Neg.-5 Pos.)	Pos.	Pos.	Pos.	Pos.
Cards:	2	3	6	9	10	9	6	3	2
Value of Single Card:	1	2	3	4	5 (5x5)	6	7	8	9
Total Value:	2	6	18	36	25	54	42	24	18

APPENDIX B: EXHIBIT III

THE DIRECTIONS FOR ADMINISTERING THE Q-INSTRUMENT AS USED IN THIS STUDY

(**Note:** Give a copy of these instructions to the student. Read aloud while the student reads silently.)

Directions for Placing Cards

You will be given 50 small cards. Each card tells what a person thinks about himself or herself. Some of the statements will be **like you.** Some of the statements will be **not like you.** (Give cards to student.)

You will also be given 9 sheets of paper. You are asked to choose which cards go on the sheets of paper. (Point to sheets of paper.)

1. Place 2 cards on the paper marked NEVER LIKE ME.
2. Place 3 cards on the paper marked NOT LIKE ME MOST OF THE TIME.
3. Place 6 cards on the paper marked NOT LIKE ME MUCH OF THE TIME.
4. Place 9 cards on the paper marked NOT LIKE ME.
5. Place 10 cards on the paper marked SOMETIMES LIKE ME.
6. Place 9 cards on the paper marked LIKE ME.
7. Place 6 cards on the paper marked LIKE ME MUCH OF THE TIME.
8. Place 3 cards on the paper marked LIKE ME MOST OF THE TIME.
9. Place 2 cards on the paper marked LIKE ME ALL THE TIME.

Notice that there are 4 sheets of paper on the **Like Me** side. (Point)

There are 4 sheets of paper on the **Not Like Me** side. (Point)
In the middle is a sheet of paper marked **Sometimes Like Me.** (Point)
You may go as slowly as you wish. There is no right or wrong answer. Just answer the way you feel about yourself. Be sure it is the way you really feel.
Let me know when you have the right number of cards on the 9 sheets of paper. Are there any questions? You may begin.
(Answer any question by repeating the pertinent instructions above; if it is thought necessary, demonstrate by placing one card on the sheets of paper showing that one statement can be answered 9 different ways.)

APPENDIX C

AN ANALYSIS OF THE RESPONSES TO THE TEN PERTINENT ITEMS

3. I am smart.

(Assumption: This is a positive statement.)

	Continuum									
	Not Like Me				Sometimes		Like Me			
Value:	1	2	3	4	5	6	7	8	9	Total
Apaches	11	7	10	25	13	7	7	7	3	90
Hopis	0	3	2	4	5	5	3	3	0	25
Navajos	4	3	23	19	26	8	11	5	1	100
Papagos	2	5	22	27	22	4	10	4	0	96
Pimas	6	13	20	19	22	4	11	4	1	100
Total:	23	31	77	94	88	28	42	23	5	411
Percentage:			55%		21%			24%		

Conclusion: 55% confirm this statement is not true of them;
76%, if the "Sometimes" category is included.

7. I am important.

(Assumption: This is a positive statement.)

	Continuum									
	Not Like Me				Sometimes		Like Me			
Value:	1	2	3	4	5	6	7	8	9	Total
Apaches	3	9	17	24	12	11	11	2	1	90
Hopis	1	2	2	8	7	1	2	0	2	25
Navajos	2	8	12	25	23	12	8	7	3	100
Papagos	9	5	11	20	17	17	7	6	4	96
Pimas	14	7	9	33	17	9	8	1	2	100
Total:	29	31	51	110	76	50	36	16	12	411
Percentage:			56%		19%			25%		

Conclusion: 56% failed to validate this statement; 75%, if the "Sometimes" category is included. Only 25% of the sample feel "I am important."

8. I run away from my problems.

(Assumption: This is a negative statement.)

	Continuum									
	Not Like Me				Sometimes		Like Me			
Value:	1	2	3	4	5	6	7	8	9	Total
Apaches	3	9	14	33	10	8	6	7	0	90
Hopis	4	1	2	6	4	5	1	0	2	25
Navajos	10	12	17	44	11	0	4	1	1	100
Papagos	8	9	10	37	16	4	8	4	0	96
Pimas	5	11	17	36	15	7	4	4	1	100
Total:	30	42	60	156	56	24	23	16	4	411
Percentage:			70%		16%			14%		

Conclusion: 70% of the sample stated they do not run away from their problems. Only 14% stated this is "Like Me."

11. I like people.

(Assumption: This is a positive statement.)

	Continuum									
	Not Like Me				Sometimes		Like Me			
Value:	1	2	3	4	5	6	7	8	9	Total
Apaches	0	0	1	6	17	27	20	6	13	90
Hopis	0	0	0	2	4	11	2	3	3	25
Navajos	0	0	1	0	15	43	20	9	12	100
Papagos	2	1	2	1	12	33	26	10	9	96
Pimas	2	3	3	0	16	34	21	15	6	100
Total:	4	4	7	9	64	148	89	43	43	411
Percentage:			6%		15%			79%		

Conclusion: 79% verified that this statement is true of them; 94%, if "Sometimes" category is included.

15. I am glad I am an Indian.

(Assumption: This is a positive statement.)

	Continuum									
	Not Like Me				Sometimes		Like Me			
Value:	1	2	3	4	5	6	7	8	9	Total
Apaches	2	0	3	6	14	39	9	4	13	90
Hopis	0	1	2	0	3	6	4	0	9	25
Navajos	1	2	1	4	12	46	13	12	9	100
Papagos	0	1	0	4	19	34	13	7	18	96
Pimas	1	0	1	2	14	48	8	8	18	100
Total:	4	4	7	16	62	173	47	31	67	411
Percentage:			8%		15%			77%		

Conclusion: 77% verified that this statement is true of them; 92%, if "Sometimes" category is included.

19. I want to improve myself.
(Assumption: This is a positive statement.)

	Continuum									
	Not Like Me				Sometimes		Like Me			
Value:	1	2	3	4	5	6	7	8	9	Total
Apaches	0	0	10	6	17	31	17	3	6	90
Hopis	2	0	2	1	0	7	8	4	1	25
Navajos	0	7	4	3	19	29	17	11	10	100
Papagos	0	2	6	6	15	36	11	9	11	96
Pimas	1	0	5	3	14	40	19	7	11	100
Total:	3	9	27	19	65	143	72	34	39	411
Percentage:			14%		16%			70%		

Conclusion: 70% verified that this statement is true of them; 86%, if "Sometimes" category is included.

20. I wish I were not born.
(Assumption: This is a negative statement.)

	Continuum									
	Not Like Me				Sometimes		Like Me			
Value:	1	2	3	4	5	6	7	8	9	Total
Apaches	11	5	9	30	11	10	8	2	4	90
Hopis	5	1	3	9	2	4	1	0	0	25
Navajos	17	9	8	43	9	3	6	2	3	100
Papagos	12	4	14	34	14	8	5	4	1	96
Pimas	17	7	13	29	12	10	5	5	2	100
Total:	62	26	47	145	48	35	25	13	10	411
Percentage:			68%		12%			20%		

Conclusion: 68% verified that this statement is **not** true of them; 80%, if "Sometimes" category is included.

33. I feel the other person likes me when I am on a date.
(Assumption: This is a positive statement.)

	Continuum									
	Not Like Me				Sometimes		Like Me			
Value:	1	2	3	4	5	6	7	8	9	Total
Apaches	7	10	15	18	11	9	13	4	2	90
Hopis	3	1	1	9	2	4	4	1	0	25
Navajos	3	6	13	26	22	15	9	4	2	100
Papagos	9	11	14	27	14	15	6	2	1	96
Pimas	8	6	14	27	14	15	7	8	1	100
Total:	30	34	57	104	63	58	39	19	6	411
Percetage:			55%		15%			30%		

Conclusion: Only 30% confirmed this positive statement was true of them.

37. I feel my family likes me.
(Assumption: This is a positive statement.)

	Continuum									
	Not Like Me				Sometimes		Like Me			
Value:	1	2	3	4	5	6	7	8	9	Total
Apaches	0	1	4	8	10	31	20	6	10	90
Hopis	0	0	1	1	4	8	1	4	6	25
Navajos	0	1	0	3	11	39	9	9	28	100
Papagos	0	1	2	5	7	34	18	10	19	96
Pimas	1	1	6	2	10	37	9	9	25	100
Total:	1	4	13	19	42	149	57	38	88	411
Percentage:			9%		10%			81%		

Conclusion: 81% verified that this statement is true of them; 91%, if "Sometimes" category is included.

38. I think my friends get me into trouble.
(Assumption: This is a negative statement.)

	Continuum: Not Like Me				Sometimes		Like Me			
Value:	1	2	3	4	5	6	7	8	9	Total
Apaches	5	4	17	26	17	9	10	0	2	90
Hopis	1	0	6	8	6	3	1	0	0	25
Navajos	17	12	15	27	15	3	9	1	1	100
Papagos	7	14	19	29	10	8	5	3	1	96
Pimas	10	14	16	31	10	7	10	2	0	100
Total:	40	44	73	121	58	30	35	6	4	411
Percentage:			68%		14%			18%		

Conclusion: 68% verify that this is **not** true of them;
82%, if "Sometimes" category is included.

APPENDIX D: EXHIBIT I

TOTAL SAMPLE: DISTRIBUTION SHOWING THE MEAN, STANDARD DEVIATION, AND STANDARD ERROR FOR 411 INDIAN ADOLESCENTS WHO WERE ADMINISTERED THE SELF-CONCEPT Q-SORT

Interval	Total Freq.	d	fd	fd^2
220-229	5	+ 7	+ 35	245
210-219	12	+ 6	+ 72	432
200-209	21	+ 5	+105	525
190-199	35	+ 4	+140	560
180-189	28	+ 3	+ 84	252
170-179	47	+ 2	+ 94	188
160-169	53	+ 1	+ 53	53
150-159	58	0	0	0
140-149	45	− 1	− 45	45
130-139	33	− 2	− 66	132
120-129	21	− 3	− 63	189
110-119	19	− 4	− 76	304
100-109	12	− 5	− 60	300
90-99	8	− 6	− 48	288
80-89	6	− 7	− 42	294
70-79	6	− 8	− 48	384
60-69	1	− 9	− 9	81
50-59	1	−10	− 10	100
	N=411		Sum fd = +116	Sum fd^2 = 4372

Mean: 157.82
Standard Deviation: 22.50
Standard Error: 1.61

APPENDIX D: EXHIBIT II

BOYS SAMPLE: DISTRIBUTION SHOWING THE MEAN, STANDARD DEVIATION, AND STANDARD ERROR FOR 213 BOYS WHO WERE ADMINISTERED THE SELF-CONCEPT Q-SORT

Interval	Total Freq.	d	fd	fd^2
220-229	4	+ 7	+28	196
210-219	7	+ 6	+42	252
200-209	14	+ 5	+70	350
190-199	20	+ 4	+80	320
180-189	16	+ 3	+48	144
170-179	25	+ 2	+50	100
160-169	25	+ 1	+25	25
150-159	37	0	0	0
140-149	18	- 1	-18	18
130-139	15	- 2	-30	60
120-129	8	- 3	-24	72
110-119	9	- 4	-36	144
100-109	7	- 5	-35	175
90-99	4	- 6	-24	144
80-89	1	- 7	- 7	49
70-79	3	- 8	-24	192
60-69	0	- 9	- 0	0
50-59	0	-10	- 0	0
	N=213		Sum fd = +145	Sum fd^2 = 2241

Mean: 161.81

Standard Deviation: 31.71

Standard Error: 2.18

APPENDIX D: EXHIBIT III

GIRLS SAMPLE: DISTRIBUTION SHOWING THE MEAN, STANDARD DEVIATION, AND STANDARD ERROR FOR 198 GIRLS WHO WERE ADMINISTERED THE SELF-CONCEPT Q-SORT

Interval	Total Freq.	d	fd	fd^2
220-229	1	+ 7	+ 7	49
210-219	5	+ 6	+30	180
200-209	7	+ 5	+35	175
190-199	15	+ 4	+60	240
180-189	12	+ 3	+36	108
170-179	22	+ 2	+44	88
160-169	28	+ 1	+28	28
150-159	21	0	0	0
140-149	27	− 1	−27	27
130-139	18	− 2	−36	72
120-129	13	− 3	−39	117
110-119	10	− 4	−40	160
100-109	5	− 5	−25	125
90-99	4	− 6	−24	144
80-89	5	− 7	−35	245
70-79	3	− 8	−24	192
60-69	1	− 9	− 9	81
50-59	1	−10	−10	100
	N=198		Sum fd = −29	Sum fd^2 = 2131

Mean: 153.54

Standard Deviation: 32.77

Standard Error: 2.33

APPENDIX D: EXHIBIT IV

APACHE SAMPLE: DISTRIBUTION SHOWING THE MEAN, STANDARD DEVIATION, AND STANDARD ERROR FOR 90 APACHES WHO WERE ADMINISTERED THE SELF-CONCEPT Q-SORT

Interval	Total Freq.	d	fd	fd^2
220-229	0	+ 7	0	0
210-219	0	+ 6	0	0
200-209	2	+ 5	+10	50
190-199	8	+ 4	+32	128
180-189	6	+ 3	+18	54
170-179	11	+ 2	+22	44
160-169	13	+ 1	+13	13
150-159	13	0	0	0
140-149	8	− 1	− 8	8
130-139	9	− 2	−18	36
120-129	7	− 3	−21	63
110-119	2	− 4	− 8	32
100-109	4	− 5	−20	100
90-99	1	− 6	− 6	36
80-89	2	− 7	−14	98
70-79	2	− 8	−16	128
60-69	1	− 9	− 9	81
50-59	1	−10	−10	100
	N=90		Sum fd = −35	Sum fd^2 = 971

Mean: 151.11

Standard Deviation: 32.60

Standard Error: 3.46

APPENDIX D: EXHIBIT V

HOPI SAMPLE: DISTRIBUTION SHOWING THE MEAN, STANDARD DEVIATION, AND STANDARD ERROR FOR 25 HOPIS WHO WERE ADMINISTERED THE SELF-CONCEPT Q-SORT

Interval	Total Freq.	d	fd	fd^2
220-229	0	+ 7	0	0
210-219	0	+ 6	0	0
200-209	1	+ 5	+ 5	25
190-199	1	+ 4	+ 4	16
180-189	3	+ 3	+ 9	27
170-179	3	+ 2	+ 6	12
160-169	6	+ 1	+ 6	6
150-159	0	0	0	0
140-149	3	− 1	− 3	3
130-139	0	− 2	0	0
120-129	3	− 3	− 9	27
110-119	5	− 4	−20	80
100-109	0	− 5	0	0
90-99	0	− 6	0	0
80-89	0	− 7	0	0
70-79	0	− 8	0	0
60-69	0	− 9	0	0
50-59	0	−10	0	0
	N=25		Sum fd = −2	Sum fd^2 = 196

Mean: 154.92

Standard Deviation: 27.74

Standard Error: 5.66

APPENDIX D: EXHIBIT VI

NAVAJO SAMPLE: DISTRIBUTION SHOWING THE MEAN, STANDARD DEVIATION, AND STANDARD ERROR FOR 100 NAVAJOS WHO WERE ADMINISTERED THE SELF-CONCEPT Q-SORT

Interval	Total Freq.	d	fd	fd^2
220-229	0	+ 5	0	0
210-219	6	+ 4	+24	96
200-209	12	+ 3	+36	108
190-199	12	+ 2	+24	48
180-189	12	+ 1	+12	12
170-179	12	0	0	0
160-169	10	− 1	−10	10
150-159	9	− 2	−18	36
140-149	12	− 3	−36	108
130-139	5	− 4	−20	80
120-129	5	− 5	−25	125
110-119	1	− 6	− 6	36
100-109	2	− 7	−14	98
90-99	0	− 8	0	0
80-89	1	− 9	− 9	81
70-79	1	−10	−10	100
60-69	0	−11	0	0
50-59	0	−12	0	0
	N=100		Sum fd = −52	Sum fd^2 = 938

Mean: 169.80

Standard Deviation: 30.18

Standard Error: 3.03

APPENDIX D: EXHIBIT VII

PAPAGO SAMPLE: DISTRIBUTION SHOWING THE MEAN, STANDARD DEVIATION, AND STANDARD ERROR FOR 96 PAPAGOS WHO WERE ADMINISTERED THE SELF-CONCEPT Q-SORT

Interval	Total Freq.	d	fd	fd^2
220-229	4	+ 7	+28	196
210-219	3	+ 6	+18	108
200-209	2	+ 5	+10	50
190-199	7	+ 4	+28	112
180-189	4	+ 3	+12	36
170-179	9	+ 2	+18	36
160-169	8	+ 1	+ 8	8
150-159	19	0	+ 0	0
140-149	16	- 1	-16	16
130-139	9	- 2	-18	36
120-129	3	- 3	- 9	27
110-119	5	- 4	-20	80
100-109	2	- 5	-10	50
90-99	4	- 6	-24	144
80-89	1	- 7	- 7	49
70-79	0	- 8	- 0	0
60-69	0	- 9	- 0	0
50-59	0	-10	0	0
	N=96		Sum fd = +18	Sum fd^2 = 948

Mean: 156.88

Standard Deviation: 31.36

Standard Error: 3.22

APPENDIX D: EXHIBIT VIII

PIMA SAMPLE: DISTRIBUTION SHOWING THE MEAN, STANDARD DEVIATION, AND STANDARD ERROR FOR 100 PIMAS WHO WERE ADMINISTERED THE SELF-CONCEPT Q-SORT

Interval	Total Freq.	d	fd	fd^2
220-229	1	+ 7	+ 7	49
210-219	3	+ 6	+18	108
200-209	4	+ 5	+20	100
190-199	7	+ 4	+28	112
180-189	3	+ 3	+ 9	27
170-179	12	+ 2	+24	48
160-169	16	+ 1	+16	16
150-159	17	0	0	0
140-149	6	- 1	- 6	6
130-139	10	- 2	-20	40
120-129	3	- 3	- 9	27
110-119	6	- 4	-24	96
100-109	4	- 5	-20	100
90-99	3	- 6	-18	108
80-89	2	- 7	-14	98
70-79	3	- 8	-24	192
60-69	0	- 9	0	0
50-59	0	-10	0	0
	N=100		Sum fd = -13	Sum fd^2 = 1127

Mean: 153.70

Standard Deviation: 33.57

Standard Error: 3.37

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